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**JUL 24 2006**

**HEWLETT-PACKARD COMPANY**  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, Colorado 80527-2400

**PATENT APPLICATION**ATTORNEY DOCKET NO. 10004120-3

Inventor(s): Eric M. Rentschler, et al.  
Application No.: 10/695,881  
Filing Date: 10/28/2003

Confirmation No.: 7802  
Examiner: Hong Chong Kim  
Group Art Unit: 2186

**Title: MEMORY CONTROLLER WITH 1X/MX WRITE CAPABILITY**

Mail Stop Amendment  
Commissioner For Patents  
PO Box 1460  
Alexandria, VA 22313-1460

**TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT**

Transmitted herewith is/are the following in the above-identified application:

<input checked="" type="checkbox"/> Response/Amendment	<input type="checkbox"/> Petition to extend time to respond
<input checked="" type="checkbox"/> New fee as calculated below	<input type="checkbox"/> Supplemental Declaration
<input type="checkbox"/> No additional fee	
<input checked="" type="checkbox"/> Other Terminal Disclaimer (\$130); Information Disclosure Statement/PTO/SB/08A (\$180) Fee\$ 310	

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS	21	MINUS	21	= 0	X \$50	\$ 0
INDEF. CLAIMS	4	MINUS	4	= 0	X \$200	\$ 0
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM						+ \$360
EXTENSION FEE	<input type="checkbox"/> 1st Month \$120	<input type="checkbox"/> 2nd Month \$450	<input type="checkbox"/> 3rd Month \$1020	<input type="checkbox"/> 4th Month \$1590		\$ 0
					OTHER FEES	\$ 310
					TOTAL ADDITIONAL FEE FOR THIS AMENDMENT	\$ 310

Charge \$ 310 to Deposit Account 08-2025. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.28. Additionally charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 Inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

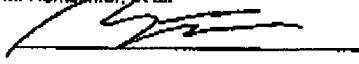
Date of Deposit: May 2, 2006

Typed Name: Gregory W. Osterloft

Signature: 

Respectfully submitted,

Eric M. Rentschler, et al.

By 

Gregory W. Osterloft

Attorney/Agent for Applicant(s)

Reg No.: 36,232

Date : May 2, 2006

Telephone : (303) 291-3204

Rev 10/05 (TransAmend)

07/25/2006 HLE333 00000036 082025 10695881

01 FC:1814 130.00 DA  
02 FC:1806 180.00 DA

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P.01

JUL 24 2006

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S): Eric M. Rentschler, et al

ATTY. DOCKET NO.: 10004120-3

SERIAL NO: 10/695,881

CONFIRMATION NO: 7802

ART UNIT: 2185

FILED: 10/28/2003

EXAMINER: KIM, HONG CHONG

TITLE: MEMORY CONTROLLER WITH 1X/MX WRITE CAPABILITY

SPECIAL COMMUNICATION

COMMISSIONER FOR PATENTS

OFFICE OF INITIAL PATENT EXAMINATION'S CUSTOMER SERVICE CENTER  
WASHINGTON, D.C. 20231

SIR/MADAM:

In response to the Notice of Allowance (copy attached) dated June 27, 2006, please note the following correction:

The Title now reads:

MEMORY CONTROLLER WITH 1X/MX WRITE CAPABILITY

The Title should read:

MEMORY CONTROLLER DRIVER CIRCUITRY HAVING A MULTIPLEXING STAGE TO PROVIDE DATA TO AT LEAST N-1 OF N DATA PROPAGATION CIRCUITS, AND HAVING OUTPUT MERGING CIRCUITRY TO ALTERNATELY COUPLE THE N DATA PROPAGATION CIRCUITS TO A DATA PAD TO GENERATE EITHER A 1X OR MX STREAM OF DATA

The amended title was requested by the examiner on page 5 of the office action mailed February 2, 2006 (see attached.) Applicant requested the title be amended on page 2 of its response filed on May 5, 2006 (see attached.) Please correct the title of this application as shown above.

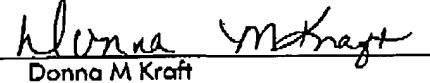
Respectfully submitted,

Eric M. Rentschler, et al

By 

Leslie P. Gehman  
Patent Attorney for Applicant  
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(970) 898-3642

I hereby certify that this correspondence is being faxed to the Assistant Commissioner of Patents, fax no.: 571-273-8300 this 24 day of July, 2006.

  
Donna M Kraft

JUL-24-2006 09:10

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UNITED STATES DEPARTMENT OF COMMERCE  
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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

06/27/2006

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

KIM, HONG CHONG

ART UNIT

PAPER NUMBER

2185

DATE MAILED: 06/27/2006

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,881	10/28/2003	Eric M. Kentzeler	10004120-3	7802

TITLE OF INVENTION: MEMORY CONTROLLER WITH IX/MX WRITE CAPABILITY      Incorrect

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	09/27/2006

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.131 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

## HOW TO REPLY TO THIS NOTICE:

## I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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 COMMISIONER FOR PATENTS  
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 Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

FEB 07 2006

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,881 ✓	10/28/2003 ✓	Eric M. Renischler	10004120-3 ✓	7802 ✓
7590	02/02/2006			<b>EXAMINER</b>
HEWLETT-PACKARD COMPANY Intellectual Property Administration P. O. Box 272400 Fort Collins, CO 80527-2400			KIM, HONG CHONG	
			ART UNIT	PAPER NUMBER
			2105	
DATE MAILED: 02/02/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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JUL 24 2006

Application/Control Number: 10/695,881  
Art Unit: 2185

Page 5

waived for those documents submitted in reply to this request. This waiver extends only to those documents within the scope of this request that are included in the application's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this request and any information disclosures beyond the scope of this are subject to the fee and certification requirements of 37 CFR section 1.97.

In the event prior art documentation is submitted, a discussion of relevant passages, figs. etc. with respect to the claims is requested. The examiner is looking for specific references to 102/103 prior art that identify independent and dependent claim limitations. Since applicant is most knowledgeable of the present invention and submitted art, his/her discussion of the reference(s) with respect to the instant claims is essential. **A response to this inquiry is greatly appreciated.**

The examiner also requests, in response to this Office action, support be shown for language added to any original claims or amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line number(s), in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title should be more specific to differentiate the invention from similar inventions in the patent literature.

Appl. No. 10/695,881  
Amendment dated May 2, 2006  
Reply to Office Action dated Feb. 2, 2006

**Amendments to the Specification:**

Please amend the Title as follows:

MEMORY CONTROLLER WITH 1X/MX WRITE CAPABILITY DRIVER CIRCUITRY  
HAVING A MULTIPLEXING STAGE TO PROVIDE DATA TO AT LEAST N-1 OF N  
DATA PROPAGATION CIRCUITS, AND HAVING OUTPUT MERGING CIRCUITRY  
TO ALTERNATELY COUPLE THE N DATA PROPAGATION CIRCUITS TO A DATA  
PAD TO GENERATE EITHER A 1X OR MX STREAM OF DATA

Please replace paragraph [0001] with the following amended paragraph:

[0001] This is a continuation of copending U.S. patent application number 09/827,768 filed on April 7, 2001, now U.S. Patent 6,678,811 issued January 13, 2004, which is hereby incorporated by reference herein.